

WEST

L7: Entry 21 of 28

File: USPT

Dec 7, 1999

DOCUMENT-IDENTIFIER: US 5997860 A

TITLE: Ex-vivo expansion of stem cells using combinations of interleukin-3 (IL-3) variants and other cytokines

Detailed Description Paragraph Right (9):

A non-exclusive list of growth factors, colony stimulating factors (CSFs) include, cytokines, lymphokines, interleukins, and hematopoietic growth factors, which can be used in coadministration or sequential treatment with the IL-3 variants of the present invention include GM-CSF, CSF-1, G-CSF, Meg-CSF, M-CSF, erythropoietin (EPO), IL-1, IL-4, IL-2, IL-5, IL-6, IL-7, IL-8, IL-9, IL-10, IL-11, IL-12, IL-13, LIF, flt3 ligand, human growth hormone, B-cell growth factor, B-cell differentiation factor, eosinophil differentiation factor and stem cell factor (SCF) also known as steel factor or c-kit ligand.

WEST

 Generate Collection

L9: Entry 5 of 7

File: USPT

Dec 14, 1999

DOCUMENT-IDENTIFIER: US 6001803 A

TITLE: Composition of c-kit ligand, GM-CSF, and TNF-.alpha. and method of use

CLAIMS:

1. A composition which comprises c-kit ligand, GM-CSF and TNF-.alpha., the amount of each in the composition being such that the composition is effective to expand and differentiate progenitor cells into dendritic cells.
2. A method of expanding and differentiating progenitor cells into dendritic cells ex-vivo comprising treating progenitor cells with a composition which comprises c-kit ligand, GM-CSF, and TNF-.alpha., the amount of each in the composition being such that the composition is effective to expand and differentiate progenitor cells into dendritic cells.

WEST

 Generate Collection

L9: Entry 6 of 7

File: USPT

Nov 30, 1999

DOCUMENT-IDENTIFIER: US 5994126 A

TITLE: Method for in vitro proliferation of dendritic cell precursors and their use to produce immunogens

CLAIMS:

1. A method of producing a population of mature dendritic cells from proliferating dendritic cell precursor cultures, comprising
 - a) providing a tissue source comprising dendritic cell precursors;
 - b) culturing the tissue source on a substrate and in culture medium to expand the number of dendritic cell precursors by allowing the dendritic cell precursors to proliferate; wherein said culture medium comprises GM-CSF and at least one other factor which inhibits the proliferation or maturation of non-dendritic cell precursors thereby increasing the proportion of dendritic cell precursors in the culture; and
 - c) continuing to culture the dendritic cell precursors for a period of time sufficient to allow them to mature into mature dendritic cells.

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Term	Documents
FLT3.DWPI,EPAB,JPAB.	34
FLT3S	0
FLT3-LIGAND.DWPI,EPAB,JPAB.	10
FLT3-LIGANDS	0
DENDRITIC.DWPI,EPAB,JPAB.	2117
DENDRITICS.DWPI,EPAB,JPAB.	1
((FLT3-LIGAND OR FLT3) SAME DENDRITIC).JPAB,EPAB,DWPI.	5
(('FLT3' OR 'FLT3-LIGAND') SAME DENDRITIC).JPAB,EPAB,DWPI.	5

US Patents Full-Text Database
US Pre-Grant Publication Full-Text Database
JPO Abstracts Database
EPO Abstracts Database
Derwent World Patents Index

Database: IBM Technical Disclosure Bulletins**Search:**

Search History

DATE: Monday, February 18, 2002 [Printable Copy](#) [Create Case](#)

Set Name Query

side by side

*DB=JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ*L10 ('flt3' or 'flt3-ligand') same dendritic*DB=USPT,PGPB; PLUR=YES; OP=ADJ*L9 L8.clm.5 L10L8 dendritic same ('gm-csf')7 L9L7 (hemopoietic or hematopoietic) same (flt3 or 'flt3-ligand' or 'flt3L')147 L8L6 (dendritic) same (flt3 or 'flt3-ligand' or 'flt3L')28 L7L5 L4 and 'gm-csf'20 L6L4 (dendritic) and (flt3 or 'flt3-ligand' or 'flt3L')37 L5L3 L1 and dendritic41 L4L2 L1 and ('flt3' or 'flt3-ligand')0 L3L1 lynch-david\$0 L245 L1

END OF SEARCH HISTORY

Dialog level 02.01.23D

Last logoff: 16feb02 13:31:04
Logon file001 18feb02 13:15:26

*** ANNOUNCEMENT ***

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--SourceOne patents are now delivered to your
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See HELP SOURCE1 for more information.

--Important news for public and academic
libraries. See HELP LIBRARY for more information.

--Important Notice to Freelance Authors--
See HELP FREELANCE for more information

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***TEME - Technology and Management (File 95)

***NewsRx Weekly Reports (File 135)

***TRADEMARKSCAN-Japan (File 669)

***Financial Times Fulltext (File 476)

UPDATING RESUMED

***Delphes European Business (File 481)

RELOADED

***CLAIMS/US PATENTS (Files 340, 341, 942)

***Kompass Middle East/Africa/Mediterranean (File 585)

***Kompass Asia/Pacific (File 592)

***Kompass Central/Eastern Europe (File 593)

***Kompass Canada (File 594)

***CANCERLIT (File 159)

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>>> of new databases, price changes, etc. <<

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$0.31 Estimated cost this search
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File 410:Chronolog(R) 1981-2002/Jan
(c) 2002 The Dialog Corporation

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$0.01 Estimated cost this search
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SYSTEM:OS - DIALOG OneSearch
File 5:Biosis Previews(R) 1969-2002/Feb W2
(c) 2002 BIOSIS.
File 73:EMBASE 1974-2002/Feb W2
(c) 2002 Elsevier Science B.V.
*File 73: For information about Explode feature please
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File 155:MEDLINE(R) 1966-2002/Feb W2
File 399:CA SEARCH(R) 1967-2002/UD=13607
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*File 399: Use is subject to the terms of your user/customer agreement.
RANK charge added; see HELP RATES 399.

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E6 1 AU=LYNCH DAVID L
E7 1 AU=LYNCH DAVID M B
E8 21 AU=LYNCH DAVID R
E9 1 AU=LYNCH DAVIS H
E10 36 AU=LYNCH DC
E11 2 AU=LYNCH DD
E12 11 AU=LYNCH DE

Enter P or PAGE for more

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14 AU=LYNCH DAVID
51 AU=LYNCH DAVID H
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82305 DENDRITIC
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3/3/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.

12589890 BIOSIS NO.: 200000343392
Mice lacking flt3 ligand have deficient hematopoiesis affecting
hematopoietic progenitor cells, **dendritic** cells, and natural killer
cells.

AUTHOR: McKenna Hilary J(a); Stocking Kim L; Miller Robert E; Brasel
Kenneth; De Smedt Thibaut; Maraskovsky Eugene; Maliszewski Charles R;
Lynch David H; Smith Jeffrey; Pulendran Bali; Roux Eileen R; Teepe
Mark; Lyman Stewart D; Peschon Jacques J

AUTHOR ADDRESS: (a) Immunobiology Department, Immunex Corporation, 51
University St, Seattle, WA, 98101**USA

JOURNAL: Blood 95 (11):p3489-3497 June 1, 2000

MEDIUM: print

ISSN: 0006-4971

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

SUMMARY LANGUAGE: English

3/3/2 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.

11296938 BIOSIS NO.: 199800078270
CD40 ligand inhibits Fas/CD95-mediated apoptosis of human blood-derived
dendritic cells.

AUTHOR: Koppi Thelma A(a); Tough-Bement Teresa; Lewinsohn David M; **Lynch David H**; Alderson Mark R

AUTHOR ADDRESS: (a) Dep. Immunol., Corixa Corp., 1124 Columbia St., Suite
464, Seattle, WA 98104**USA

JOURNAL: European Journal of Immunology 27 (12):p3161-3165 Dec., 1997

ISSN: 0014-2980

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

3/3/3 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.

11274538 BIOSIS NO.: 199800055870

Induction of **dendritic** cells (DC) by Flt3 ligand (FL) promotes the generation of tumor-specific immune responses in vivo.
AUTHOR: **Lynch David H(a**
AUTHOR ADDRESS: (a)Dep. Immunobiol., Immunex Corporation, 51 University St., Seattle, WA 98101**USA
JOURNAL: Critical Reviews in Immunology 18 (1-2):p99-107 1998
ISSN: 1040-8401
DOCUMENT TYPE: Article
RECORD TYPE: Citation
LANGUAGE: English

3/3/4 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.

10976211 BIOSIS NO.: 199799597356
Flt3 ligand induces tumor regression and antitumor immune responses in vivo.
AUTHOR: **Lynch David H(a**; Andreasen Alice(a); Maraskovsky Eugene(a); Whitmore James; Miller Robert E(a); Schuh Joann C L
AUTHOR ADDRESS: (a)Dep. Immunol., Immunex Corp., 51 University St., Seattle, WA 98101**USA
JOURNAL: Nature Medicine 3 (6):p625-631 1997
ISSN: 1078-8956
RECORD TYPE: Abstract
LANGUAGE: English
? s (flt3(w)ligand or flt3) and dendritic

2675 FLT3
302059 LIGAND
1950 FLT3 (W)LIGAND
2675 FLT3
82305 DENDRITIC
S4 544 (FLT3 (W)LIGAND OR FLT3) AND DENDRITIC
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S5 0 S4 AND PY=1993
? s s4 and py=1994

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? s s4 and py=1995

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8/7/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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10166594 BIOSIS NO.: 199698621512
In vivo administration of **FLT3 ligand** but not G-CSF nor GM-CSF results in the generation of large numbers of **dendritic** cells in

mice.
AUTHOR: Maraskovsky E; McKenna H J; Brasel K; Tepee M; Roux E; Lyman S D;
Williams D E
AUTHOR ADDRESS: Immunex Corp., Seattle, WA**USA
JOURNAL: Blood 86 (10 SUPPL. 1):p423A 1995
CONFERENCE/MEETING: 37th Annual Meeting of the American Society of
Hematology Seattle, Washington, USA December 1-5, 1995
ISSN: 0006-4971
RECORD TYPE: Citation
LANGUAGE: English

8/7/2 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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10166582 BIOSIS NO.: 199698621500
The effect of **FLT3 ligand** and/or c-kit ligand on the generation
of **dendritic** cells from human CD34+ bone marrow.
AUTHOR: Maraskovsky E; Roux E; Tepee M; McKenna H J; Brasel K; Lyman S D;
Williams D E
AUTHOR ADDRESS: Immunex Corp., Seattle, WA**USA
JOURNAL: Blood 86 (10 SUPPL. 1):p420A 1995
CONFERENCE/MEETING: 37th Annual Meeting of the American Society of
Hematology Seattle, Washington, USA December 1-5, 1995
ISSN: 0006-4971
RECORD TYPE: Citation
LANGUAGE: English
? s s4 and py=1996

544 S4
2065019 PY=1996
S9 12 S4 AND PY=1996
? rd s9

...completed examining records
S10 8 RD S9 (unique items)
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10/7/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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10738938 BIOSIS NO.: 199799360083
Dendritic cell development in culture from thymic precursor cells in
the absence of granulocyte/macrophage colony-stimulating factor.
AUTHOR: Saunders Dolores; Lucas Karen; Ismaili Jamila; Wu Li; Maraskovsky
Eugene; Dunn Ashley; Shortman Ken(a)
AUTHOR ADDRESS: (a)Walter Eliza Hall Inst. Med. Res., PO Royal Melbourne
Hosp., Melbourne, VIC 3050**Australia
JOURNAL: Journal of Experimental Medicine 184 (6):p2185-2196 1996
ISSN: 0022-1007
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The earliest lymphoid precursor population in the adult mouse
thymus had previously been shown to produce not only T cells, but also
dendritic cell (DC) progeny on transfer to irradiated recipients.
In this study, culture of these isolated thymic precursors with a mixture
of cytokines induced them to proliferate and to differentiate to DC, but
not to T lineage cells. At least 70% of the individual precursors had the
capacity to form DC. The resultant DC were as effective as normal thymic
DC in the functional test of T cell stimulation in mixed leukocyte

cultures. The cultured DC also expressed high levels of class I and class II major histocompatibility complex, together with CD11c, DEC-205, CD80, and CD86, markers characteristic of mature DC in general. However, they did not express CD8-alpha or BP-1, markers characteristic of normal thymic DC. The optimized mixture of five to seven cytokines required for DC development from these thymic precursors did not include granulocyte/macrophage colony stimulating factor (GM-CSF), usually required for DC development in culture. The addition of anti-GM-CSF antibody or the use of precursors from GM-CSF-deficient mice did not prevent DC development. Addition of GM-CSF was without effect on DC yield when interleukin (IL) 3 and IL-7 were present, although some stimulation by GM-CSF was noted in their absence. In contrast, DC development was enhanced by addition of the **Flt3**/Flk2 ligand, in line with the effects of the administration of this cytokine *in vivo*. The results indicate that the development of a particular lineage of DC, probably those of lymphoid precursor origin, may be independent of the myeloid hormone GM-CSF.

10/7/2 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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10732931 BIOSIS NO.: 199799354076
Targeted disruption of the **FLT3** ligand gene in mice affects multiple hematopoietic lineages, including natural killer cells B lymphocytes, and **dendritic** cells.
AUTHOR: McKenna H J; Miller R E; Brasel K; Maraskovsky E; Maliszewski C; Pulendran B; Lynch D; Teepe M; Roux E R; Smith J; Williams D E; Lyman S D ; Peschon J J; Stocking K
AUTHOR ADDRESS: Immunex Corp., Seattle, WA**USA
JOURNAL: Blood 88 (10 SUPPL. 1 PART 1-2):p474A 1996
CONFERENCE/MEETING: Thirty-eighth Annual Meeting of the American Society of Hematology Orlando, Florida, USA December 6-10, 1996
ISSN: 0006-4971
RECORD TYPE: Citation
LANGUAGE: English

10/7/3 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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10732785 BIOSIS NO.: 199799353930
Flt3 ligand: A novel **dendritic** cell (DC)-stimulating cytokine that induces tumor regression and anti-tumor immune responses *in vivo*.
AUTHOR: Lynch D H; Andreasen A; Miller R E; Schuh J C L
AUTHOR ADDRESS: Immunex Corp., Seattle, WA**USA
JOURNAL: Blood 88 (10 SUPPL. 1 PART 1-2):p437A 1996
CONFERENCE/MEETING: Thirty-eighth Annual Meeting of the American Society of Hematology Orlando, Florida, USA December 6-10, 1996
ISSN: 0006-4971
RECORD TYPE: Citation
LANGUAGE: English

10/7/4 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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10732784 BIOSIS NO.: 199799353929
Distinct function, phenotype and localization of lymphoid and myeloid **dendritic** cell subsets in **FLT3-L** treated mice.

AUTHOR: Pulendran B(a); Lingappa J; Kennedy M(a); Smith J(a); Wright B(a); Teepe M(a); Rudensky A; Williams D E(a); Maliszewski C(a); Maraskovsky E (a)
AUTHOR ADDRESS: (a) Immunex Corp., Seattle, WA**USA
JOURNAL: Blood 88 (10 SUPPL. 1 PART 1-2):p437A 1996
CONFERENCE/MEETING: Thirty-eighth Annual Meeting of the American Society of Hematology Orlando, Florida, USA December 6-10, 1996
ISSN: 0006-4971
RECORD TYPE: Citation
LANGUAGE: English

10/7/5 (Item 5 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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10731674 BIOSIS NO.: 199799352819
Administration of **Flt3 ligand** results in the generation of large numbers of phenotypically distinct populations of **dendritic** cells in mice.
AUTHOR: Maraskovsky E(a); Brasel K(a); Pulendran B(a); Tepee M(a); Roux E (a); Shortman K D; Lyman S D(a); Williams D E(a); Maliszewski C(a); McKenna H J(a)
AUTHOR ADDRESS: (a) Immunex Corp., Seattle, WA**USA
JOURNAL: Blood 88 (10 SUPPL. 1 PART 1-2):p159A 1996
CONFERENCE/MEETING: Thirty-eighth Annual Meeting of the American Society of Hematology Orlando, Florida, USA December 6-10, 1996
ISSN: 0006-4971
RECORD TYPE: Citation
LANGUAGE: English

10/7/6 (Item 6 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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10731673 BIOSIS NO.: 199799352818
The effect of **FLT3 ligand** and/or c-kit ligand on the generation of **dendritic** cells from human CD34+ bone marrow.
AUTHOR: Maraskovsky E; Roux E; Tepee M; McKenna H J; Brasel K; Lyman S D; Williams D E
AUTHOR ADDRESS: Immunex Corp., Seattle, WA**USA
JOURNAL: Blood 88 (10 SUPPL. 1 PART 1-2):p159A 1996
CONFERENCE/MEETING: Thirty-eighth Annual Meeting of the American Society of Hematology Orlando, Florida, USA December 6-10, 1996
ISSN: 0006-4971
RECORD TYPE: Citation
LANGUAGE: English

10/7/7 (Item 7 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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10698320 BIOSIS NO.: 199799319465
Dramatic increase in the numbers of functionally mature **dendritic** cells in **Flt3 ligand**-treated mice: Multiple **dendritic** cell subpopulations identified.
AUTHOR: Maraskovsky Eugene(a); Brasel Ken; Teepe Mark; Roux Eileen R; Lyman Stewart D; Shortman Ken; McKenna Hilary J
AUTHOR ADDRESS: (a) Immunex Corporation, 51 University St., Seattle, WA 98101**USA
JOURNAL: Journal of Experimental Medicine 184 (5):p1953-1962 1996
ISSN: 0022-1007

RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: **Dendritic** cells (DC) are the most efficient APC for T cells. The clinical use of DC as vectors for anti-tumor and infectious disease immunotherapy has been limited by their trace levels and accessibility in normal tissue and terminal state of differentiation. In the present study, daily injection of human **Flt3 ligand** (Flt3L) into mice results in a dramatic numerical increase in cells co-expressing the characteristic DC markers sbd class II MHC, CD11c, DEC205, and CD86. In contrast, in mice treated with either GM-CSF, GM-CSF plus IL-4, c-kit ligand (c-kitL), or G-CSF, class II+ CD11c+ cells were not significantly increased. Five distinct DC subpopulations were identified in the spleen of Flt3L-treated mice using CD8-alpha and CD11b expression. These cells exhibited veiled and **dendritic** processes and were as efficient as rare, mature DC isolated from the spleens of untreated mice at presenting allo-Ag or soluble Ag to T cells, or in priming an Ag-specific T cell response in vivo. Dramatic numerical increases in DC were detected in the bone marrow, gastrointestinal lymphoid tissue (GALT), liver, lymph nodes, lung, peripheral blood, peritoneal cavity, spleen, and thymus. These results suggest that Flt3L could be used to expand the numbers of functionally mature DC in vivo for use in clinical immunotherapy.

10/7/8 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE
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06704387 EMBASE No: 1996369336
Dramatic increase in the number of functionally mature **dendritic** cells in **Flt3 ligand**-treated mice: Multiple **dendritic** cell subpopulations identified
Maraskovsky E.; Brasel K.; Teepe M.; Roux E.R.; Lyman S.D.; Shortman K.; McKenna H.J.
Immunex Corporation, 51 University St., Seattle, WA 98101 United States
Journal of Experimental Medicine (J. EXP. MED.) (United States) 1996,
184/5 (1953-1962)
CODEN: JEMEA ISSN: 0022-1007
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

Dendritic cells (DC) are the most efficient APC for T cells. The clinical use of DC as vectors for anti-tumor and infectious disease immunotherapy has been limited by their trace levels and accessibility in normal tissue and terminal state of differentiation. In the present study, daily injection of human **Flt3 ligand** (Flt3L) into mice results in a dramatic numerical increase in cells co-expressing the characteristic DC markers- class II MHC, CD11c, DEC205, and CD86. In contrast, in mice treated with either GM-CSF, GM-CSF plus IL-4, c-kit ligand (c-kitL), or G-CSF, class II⁺ CD11c⁺ cells were not significantly increased. Five distinct DC subpopulations were identified in the spleen of Flt3L-treated mice using CD8alpha and CD11b expression. These cells exhibited veiled and **dendritic** processes and were as efficient as rare, mature DC isolated from the spleens of untreated mice at presenting allo-Ag or soluble Ag to T cells, or in priming an AG-specific T cell response in vivo. Dramatic numerical increases in DC were detected in the bone marrow, gastro-intestinal lymphoid tissue (GALT), liver, lymph nodes, lung, peripheral blood, peritoneal cavity, spleen, and thymus. These results suggest that Flt3L could be used to expand the numbers of functionally mature DC in vivo for use in clinical immunotherapy.
? s (flk2 or flt3L) and dendritic

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226  FLT3L
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S11    124 (FLK2 OR FLT3L) AND DENDRITIC
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124  S11
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124  S11
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S13      0 S11 AND PY=1994
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1971914 PY=1995
S14      0 S11 AND PY=1995
? ds

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S10	8	RD S9 (unique items)
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S13	0	S11 AND PY=1994
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544  S4
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S16      16 RD S15 (unique items)
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16/7/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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12401596 BIOSIS NO.: 200000155098
Flt3 ligand (FL) and its influence on immune reactivity.
AUTHOR: Antonysamy Mary A; Thomson Angus W(a)
AUTHOR ADDRESS: (a)University of Pittsburgh Medical Center, 200 Lothrop
Street, W1544 Biomedical Science Tower, Pittsburgh, PA, 15213**USA
JOURNAL: Cytokine. 12 (2):p87-100 Feb., 2000
ISSN: 1043-4666
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

ABSTRACT: **Flt3** (fms-like tyrosine kinase 3) ligand (FL) is a potent hematopoietic cytokine that affects the growth and differentiation of progenitor and stem cells both *in vivo* and *in vitro*. Its capacity to augment strikingly the numbers of **dendritic** cells (rare antigen-presenting cells that induce and regulate immune responses) in mice and humans has stimulated considerable interest in its value as an investigational tool and therapeutic agent. In this **review**, we survey the hematopoietic properties and immunobiology of FL, and examine its therapeutic potential.

16/7/2 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE
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11349260 EMBASE No: 2001363232
Genetically modified **dendritic** cells in cancer therapy:
Implications for transfusion medicine
Foley R.; Tozer R.; Wan Y.
Dr. R. Foley, Hamilton Reg. Lab. Medicine Program, Henderson General Hospital Site, 711 Concession Street, Hamilton, Ont. L8V 1C3 Canada
Transfusion Medicine Reviews (TRANSFUS. MED. REV.) (United States)
2001, 15/4 (292-304)
CODEN: TMERE ISSN: 0887-7963
DOCUMENT TYPE: Journal ; Review
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 67

Dendritic cells (DCs) are a heterogeneous population of antigen-presenting cells (APCs) identified in various tissues, including the skin (Langerhans cells), lymph nodes (interdigitating and follicular DCs), spleen, and thymus. Properties of DCs include the ability to (1) capture, process, and present foreign antigens; (2) migrate to lymphoid-rich tissue; and (3) stimulate innate and adaptive antigen-specific immune responses. Until recently, the ability to study DCs has been limited by their absence in most culture systems. It is now known that specific cytokines can be used to expand DCs to numbers sufficient for their *in vitro* evaluation and for their use in human immunotherapy trials. Human DCs can be derived from hematopoietic progenitors (CD34+-derived DCs) or from adherent peripheral blood monocytes (monocyte-derived DCs). Cultured DCs can be recognized by a typical veiled morphologic appearance and expression of surface markers that include major histocompatibility complex class II, CD86/BT.2, CD80/B7.1, CD83, and CD1a. DCs are susceptible to a variety of gene transfer protocols, which can be used to enhance biological function *in vivo*. Transduction of DCs with genes for defined tumor antigens results in sustained protein expression and presentation of multiple tumor peptides to host T cells. Alternatively, DCs may be transduced with genes for chemokines or immunostimulatory cytokines. Although the combination of *ex vivo* DC expansion and gene transfer is relatively new, preliminary studies suggest that injection of genetically modified autologous DCs may be capable of generating anti-tumor immune responses in patients with cancer. Preclinical animal studies showing potent antigen-specific tumor immunity after DC-based vaccination support this hypothesis and provide rationale to further evaluate this approach in patients. Preliminary human studies are now required to evaluate optimal DC dose, schedule of vaccination, route of delivery, and maturational state of cultured cells. Initiation of these phase I/II cell therapybased studies will occur in collaboration with hospital-based transfusion facilities. Issues relating to cell harvesting, storage, culture methodology, and administration require the collaborative efforts of basic scientists, immunologists, clinical investigators, and transfusion medicine staff to ensure strict quality control of injected cellular products. This **review** is intended to provide a brief overview of clinical DC-based gene transfer. Copyright (c) 2001 by W.B. Saunders Company.

16/7/3 (Item 2 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2002 Elsevier Science B.V. All rts. reserv.

11338711 EMBASE No: 2001351220
Flt3 ligand and granulocyte-macrophage colony-stimulating factor preferentially expand and stimulate different **dendritic** and T-cell subsets
Parajuli P.; Mosley R.L.; Pisarev V.; Chavez J.; Ulrich A.; Varney M.; Singh R.K.; Talmadge J.E.
Dr. J.E. Talmadge, Lab. of Transplantation Immunology, Department of Pathology/Microbiology, Nebraska Medical Center, Omaha, NE 68198-7660 United States
AUTHOR EMAIL: jtalmadg@ummc.edu
Experimental Hematology (EXP. HEMATOL.) (United States) 2001, 29/10 (1185-1193)
CODEN: EXHEB ISSN: 0301-472X
PUBLISHER ITEM IDENTIFIER: S0301472X01007226
DOCUMENT TYPE: Journal ; Review
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 45

Objective: Mechanisms of T-cell stimulation by **Flt3 ligand** (**Flt3L**) and granulocyte-macrophage colony-stimulating factor (GM-CSF) remain unclear. Herein, we compared the effects of **Flt3L** and GM-CSF on the expansion of **dendritic** cells (DC) and T-cell subsets and cytokine expression. Methods: Naive and effector/memory T cells were analyzed by flow cytometry (FC). CD4SUP+ and CD8SUP+ T cells and CD11cSUP+CD11bSUPdull/- (DC1) and CD11cSUP+CD11bSUP+ (DC2) subsets were isolated and the frequency of IFN-gamma-, IL-12- (type 1) and IL-4-, IL-10 (type 2)-producing cells and cytokine mRNA expression evaluated. Results: **Flt3L** expanded both DC1 and DC2 subsets with a significantly higher percentage and number of DC1 than DC2, while GM-CSF preferentially expanded the DC2 subset. Isolated DC1 from **Flt3L**-injected mice had significantly higher levels of IL-12 (p40) than IL-10, while the converse occurred with DC2. The numbers of naive and memory T cells were elevated in mice that received **Flt3L** or GM-CSF. However, the number of memory CD4SUP+ and CD8SUP+ T cells was significantly increased in **Flt3L** as compared to GM-CSF cohorts. While GM-CSF increased the frequency of both type 1 and type 2 cytokine-producing cells, **Flt3L** significantly augmented the frequency of type 1 T cells. Conclusions: In contrast to GM-CSF, **Flt3L** preferentially induces the expansion of type 1 T cells. The mechanism of **Flt3L**-induced T-cell stimulation is associated with the expansion of the IL-12 (p40)-producing DC1 and memory T cells. Copyright (c) 2001 International Society for Experimental Hematology.

16/7/4 (Item 3 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2002 Elsevier Science B.V. All rts. reserv.

11244765 EMBASE No: 2001259423
Modulating the immune response with **dendritic** cells and their growth factors
Pulendran B.; Maraskovsky E.; Banchereau J.; Maliszewski C. B. Pulendran, Baylor Institute for Immunology, 3434 Live Oak, Dallas, TX 75204 United States
AUTHOR EMAIL: balip@baylorDallas.edu
Trends in Immunology (TRENDS IMMUNOL.) (United Kingdom) 2001, 22/1 (41-47)
CODEN: TIRMA ISSN: 1471-4906
PUBLISHER ITEM IDENTIFIER: S1471490600017944

DOCUMENT TYPE: Journal ; Review
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 69

Different subsets of **dendritic** cells (DCs) appear to play a role in determining the specific cytokines secreted by T helper (Th) cells. A model is proposed that links together factors such as the pathogen, microenvironment, DCs and T cells in a mechanism that results in a flexible determination of T-cell polarization.

16/7/5 (Item 4 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2002 Elsevier Science B.V. All rts. reserv.

11230440 EMBASE No: 2001245571
Dendritic cell biology and preparation for clinical applications (Review and preliminary results)
BIOLOGIE DENDRITICKYCH BUNE(caron) K A JEJICH PR(caron) IPRAVA PRO KLINICKE UZ(caron) ITI (PR(caron) EHLED A PR(caron) EDBE(caron) Z(caron) NE VYSLEDKY)
Hajek R.; Kr(caron)ivanova A.; Bourkova L.; Doubek M.; Fis(caron)erova A.
; Kovar(caron)ova L.; Musilova R.; Buchler T.; Penka M.; Vorlic(caron)ek J.
R. Hajek, Interni Hematoonkol. Klinika, Fakultni Nemocnice, Brno Czech Republic
Klinicka Onkologie (KLIN. ONKOL.) (Czech Republic) 2001, 14/3 (79-84)
CODEN: KLONE ISSN: 0862-495X
DOCUMENT TYPE: Journal ; Review
LANGUAGE: CZECH SUMMARY LANGUAGE: ENGLISH; CZECH
NUMBER OF REFERENCES: 56

Dendritic cells (DCs) are extremely efficient antigen-presenting cells that are potent stimulators of both B and T cell immune responses. Although DCs are normally present in extremely small numbers in the circulation, recent advances in DC biology have made it possible to generate DCs in culture. DCs can be generated in vitro from various cellular sources including bone marrow, cord blood and peripheral blood. Although culture conditions are extremely diverse, the majority of protocols grow DCs in GM-CSF and either TN F-alpha and/or IL-4. The addition of other growth factors such as SCF and Flt-3 ligand and CD 40 can dramatically enhance DC recovery. Thus, DC at different stages of maturation, based on phenotype and capacity to capture antigen, can be obtained depending on culture conditions. For clinical applications, DCs can be generated in serum-free media and cryopreserved for future clinical applications. In our first experiments two-stage culture system was used for CD34+ precursors and 15-fold increase in DC yield was observed after 12 days of cultivation. The ability to obtain DCs in numbers suitable for manipulating immune responses has pushed DC-based immunotherapies into the spotlight for treatment of various malignancies. Today is **dendritic** cell vaccination strategy one of the most frequent experimental therapies evaluated in the clinical setting, with promising results.

16/7/6 (Item 5 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2002 Elsevier Science B.V. All rts. reserv.

11130579 EMBASE No: 2001149750
Role of hematopoietic growth factors/**flt3** ligand in expansion and regulation of **dendritic** cells
McKenna H.J.
Dr. H.J. McKenna, Immunex Corporation, 51 University Street, Seattle, WA 98101 United States
AUTHOR EMAIL: mckennah@immunex.com
Current Opinion in Hematology (CURR. OPIN. HEMATOL.) (United States)

2001, 8/3 (149-154)

CODEN: COHEF ISSN: 1065-6251

DOCUMENT TYPE: Journal ; Review

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 57

Dendritic cells (DCs) are hematopoietic cells that initiate immune responses by presenting antigen to T cells. Granulocyte-macrophage colony-stimulating factor (GM-CSF) is a primary growth factor for DCs in vitro, but recently it was recognized that other factors including **flt3 ligand** (FL) and G-CSF expand various DC subsets in vivo. DCs undergo a complex series of maturation and activation steps after they acquire antigen and before they can activate resting T cells. In addition, they must traffic to T-cell-rich areas of lymph nodes (LN) to achieve this. Each of these steps is tightly regulated, and in the last year progress has been made in identifying some of the key molecules involved in each of these steps. This progress will further the efforts underway to develop DCs as vaccine adjuvants. (c) 2001 Lippincott Williams & Wilkins, Inc.

16/7/7 (Item 6 from file: 73)

DIALOG(R)File 73:EMBASE

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11077103 EMBASE No: 2001091338

Dendritic cell vaccination for cancer therapy

Nestle F.O.

F.O. Nestle, Department of Dermatology, University of Zurich Medical School, Gloriastrasse 31, 8091 Zurich Switzerland

Oncogene (ONCOGENE) (United Kingdom) 27 DEC 2000, 19/56 (6673-6679)

CODEN: ONCNE ISSN: 0950-9232

DOCUMENT TYPE: Journal ; Review

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 53

A growing list of defined tumor-antigens opens the way to antigen specific immunotherapy of cancer. However current approaches are often limited in their potential to induce an effective anti-tumor response.

Dendritic cells (DC) are natural adjuvants for the induction of antigen specific T cell response. They have been successfully used in clinical pilot trials to induce tumor specific immunity as well as clinical response in selected patients. Current research focuses on optimization of DC source, choice of antigen, antigen loading, mode of injection, as well as immuno-monitoring. Finally, a variety of immune escape mechanisms are operative at the tumor site and have to be overcome for successful vaccination.

16/7/8 (Item 7 from file: 73)

DIALOG(R)File 73:EMBASE

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10665418 EMBASE No: 2000148533

Dendritic cells

Bell D.; Young J.W.; Banchereau J.

D. Bell, Baylor Inst. for Immunology Research, Sammons Cancer Center, Dallas, TX 75246 United States

Advances in Immunology (ADV. IMMUNOL.) (United States) 1999, 72/- (255-324)

CODEN: ADIMA ISSN: 0065-2776

DOCUMENT TYPE: Journal; Review

LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 545

16/7/9 (Item 8 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2002 Elsevier Science B.V. All rts. reserv.

10641599 EMBASE No: 2000106720
Dendritic cell biology and the application of **dendritic** cells
to immunotherapy of multiple myeloma
Hajek R.; Butch A.W.
R. Hajek, Internal Med. Hematol./Oncol. Dept., Masaryk University
Hospital, Jihlavská 20, Brno 63900 Czech Republic
AUTHOR EMAIL: r.hajek@fnbrno.cz
Medical Oncology (MED. ONCOL.) (United Kingdom) 2000, 17/1 (2-15)
CODEN: MONCE ISSN: 0736-0118
DOCUMENT TYPE: Journal; Review
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 104

Dendritic cells (DCs) are extremely efficient antigen-presenting cells that are potent stimulators of both B and T cell immune responses. Although DCs are normally present in extremely small numbers in the circulation, recent advances in DC biology have made it possible to generate DCs in culture. DCs can be generated *in vitro* from various cellular sources including bone marrow, cord blood and peripheral blood. Although culture conditions are extremely diverse, the majority of protocols grow DCs in GM-CSF and either TNF-alpha and/or IL-4. The addition of other growth factors such as SCF and Flt-3 ligand can dramatically enhance DC recovery. It is important to appreciate that DC subsets have been identified. Thus, DC at different stages of maturation, based on phenotype and capacity to capture antigen, can be obtained depending on culture conditions. For clinical applications, DCs can be generated in serum-free media and cryopreserved for future clinical applications. The ability to obtain DCs in numbers suitable for manipulating immune responses has pushed DC-based immunotherapies into the spotlight for treatment of various malignancies, including multiple myeloma, a B cell malignancy that is presently incurable. Although high-dose chemotherapy and transplantation have improved complete remission rates and overall survival in myeloma, immunotherapeutic strategies are needed for the additional cytoreduction needed to achieve a cure. Because DCs specialize in antigen capture and are extremely potent at stimulating T cell responses, they are ideally suited for generating anti-myeloma T cell responses *in vivo*. Several studies have demonstrated that myeloma protein, also called idiotype (Id), is sufficiently immunogenic and can be used to generate *in vivo* T cell responses in myeloma patients. Clinical trials using Id-pulsed DCs as a vaccine to treat minimal residual disease or relapsed myeloma are currently underway. Feasibility studies indicate that antigen-pulsed autologous DCs can be used to elicit *in vivo* Id-specific T cell responses. Additional studies are needed to optimize current DC vaccination protocols and determine clinical benefits associated with this approach. It is hoped that, following conventional therapies, a combination of adoptive immunotherapeutic modalities such as DCs together with myeloma-specific T cells may lead to improved clinical responses in multiple myeloma, and ultimately lead to complete remission and cure.

16/7/10 (Item 9 from file: 73)
DIALOG(R)File 73:EMBASE
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07848868 EMBASE No: 1999322511
Generating a T cell tumor-specific immune response *in vivo*: Can
flt3-ligand-generated **dendritic** cells tip the balance?
McKenna H.J.
H.J. McKenna, Department of Immunobiology, Immunex Corporation, 51

University street, Seattle, WA 98101-2936 United States
AUTHOR EMAIL: mckenna@immunex.com
Cancer Immunology Immunotherapy (CANCER IMMUNOL. IMMUNOTHER.) (Germany)
1999, 48/6 (281-286)
CODEN: CIIMD ISSN: 0340-7004
DOCUMENT TYPE: Journal; Review
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 69

f1t3 ligand (FL) is a growth factor that induces hematopoietic progenitor cell and **dendritic** cell (DC) expansion when administered to mice. Lymphoid-related (CD8alphasup +) and myeloid-related (CD8alphasup -) DC are transiently expanded in multiple tissues. Treatment of tumor-bearing mice with FL results in slower tumor growth and, in some cases, tumor rejection and the development of tumor-specific T cell immunity. The clinical use of DC as cellular vehicles for tumor antigen presentation to generate a tumor-specific T cell response is under investigation. DC are currently generated ex vivo, pulsed with antigen, and then infused into patients, and much effort is being directed toward optimizing each of these steps. Administration of FL to humans induces a profound increase in circulating DC. The availability of a large number of DC generated in vivo has important implications for tumor immunotherapy approaches.

16/7/11 (Item 10 from file: 73)
DIALOG(R)File 73:EMBASE
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07205230 EMBASE No: 1998104111
Epidermal Langerhans cell development and differentiation
Strobl H.; Riedl E.; Bello-Fernandez C.; Knapp W.
Dr. W. Knapp, Institute of Immunology, University of Vienna,
Borschkegasse 8a, A-1090 Vienna Austria
Immunobiology (IMMUNOBIOLOGY) (Germany) 1998, 198/5 (588-605)
CODEN: ZIMMD ISSN: 0171-2985
DOCUMENT TYPE: Journal; Review
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 99

Epidermal Langerhans cells (LC) play a critical role in host defense. Still we know rather little about the development and functional specialization of these bone marrow-derived **dendritic** cells (DC) located in the most peripheral ectodermal tissue of the mammalian organism. How LC develop from their primitive progenitors in bone marrow and to what extent LC are related in their development to other lineages of the hemopoietic system is still under debate. There are currently 3 major areas of debate: 1) which are the signals required for LC development and differentiation to occur, 2) what are the (molecular) characteristics of the intermediate stages of LC differentiation, and 3) how are LC related in their development and/or function to other cells of the hemopoietic system? A better understanding of LC development and answers to these questions can be expected from recently developed technologies which allow the *in vitro* generation of DC with the typical molecular, morphological and functional features of LC from purified CD34sup + progenitor cells under defined serum-free culture conditions. TGF-beta1 was found to be an absolute requirement for *in vitro* LC development under serum free conditions upon stimulation with the classical DC growth and differentiation factors GM-CSF, TNF-alpha and SCF. The recently identified cytokine **FLT3** **ligand** further dramatically enhanced *in vitro* LC development and even allowed efficient *in vitro* generation of LC colonies from serum-free single cell cultures of CD34sup + hemopoietic progenitor cells.

16/7/12 (Item 1 from file: 399)

DIALOG(R)File 399:CA SEARCH(R)

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130236013 CA: 130(18)236013k CONFERENCE PROCEEDING

Lymphoid-related dendritic cells

AUTHOR(S): Maraskovsky, Eugene; Pulendran, Bali; Shortman, Ken

LOCATION: Department of Immunobiology, Immunex Corporation, Seattle, WA,
USA

JOURNAL: Dendritic Cells EDITOR: Lotze, Michael T. (Ed), Thomson, Angus
W (Ed), DATE: 1999 PAGES: 93-107 CODEN: 67DCAA LANGUAGE: English

PUBLISHER: Academic, San Diego, Calif

SECTION:

CA215000 Immunochemistry

IDENTIFIERS: review dendritic cell surface antigen Flt3 ligand

DESCRIPTORS:

Hematopoietic growth factors...

Flt3 ligand; phenotypic characterization and growth response to Flt3
ligand of lymphoid-related dendritic cells

Dendritic cell... Surface antigens...

phenotypic characterization and growth response to Flt3 ligand of
lymphoid-related dendritic cells

16/7/13 (Item 2 from file: 399)

DIALOG(R)File 399:CA SEARCH(R)

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129188044 CA: 129(15)188044b JOURNAL

FLT3: receptor and ligand. Biology and potential clinical application

AUTHOR(S): Shurin, Michael R.; Esche, Clemens; Lotze, Michael T.

LOCATION: Department of Surgical Oncology and Biological Therapeutics
Program, University of Pittsburgh Cancer Institute, Pittsburgh, PA, 15213,
USA

JOURNAL: Cytokine Growth Factor Rev. DATE: 1998 VOLUME: 9 NUMBER: 1
PAGES: 37-48 CODEN: CGFRFB ISSN: 1359-6101 LANGUAGE: English

PUBLISHER: Elsevier Science Ltd.

SECTION:

CA215000 Immunochemistry

CA201XXX Pharmacology

CA202XXX Mammalian Hormones

IDENTIFIERS: review FLT3 receptor ligand hematopoiesis, growth factor
cytokine Flt3 ligand review, dendritic cell immunotherapy Flt3 ligand
review

DESCRIPTORS:

Hematopoietin receptors...

FLT3 receptors; FLT3: receptor and ligand biol. and potential clin.
application

Dendritic cell... Hematopoiesis... Immunotherapy...

FLT3: receptor and ligand biol. and potential clin. applications in
Cytokines... Growth factors(animal)...

FLT3: receptor and ligand biol. and potential clin. applications with
Vascular endothelial growth factor receptors...

gene flt 1; FLT3: receptor and ligand biol. and potential clin.
application

Cell(biological)...

stem; FLT3: receptor and ligand biol. and potential clin. applications

16/7/14 (Item 3 from file: 399)

DIALOG(R)File 399:CA SEARCH(R)

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129066523 CA: 129(6)66523m JOURNAL

Active specific T-cell-based immunotherapy for cancer: nucleic acids, peptides, whole native proteins, recombinant viruses, with dendritic cell adjuvants or whole tumor cell-based vaccines. Principles and future prospects

AUTHOR(S): Fernandez, Nadine; Duffour, Marie-Therese; Perricaudet, Michel ; Lotze, Michael T.; Tursz, Thomas; Zitvogel, Laurence

LOCATION: CNRS URA 1301, Genetique des Virus Oncogenes, Institut Gustave Roussy, 94805, Villejuif, Fr.

JOURNAL: Cytokines, Cell. Mol. Ther. DATE: 1998 VOLUME: 4 NUMBER: 1

PAGES: 53-65 CODEN: CCMTFO ISSN: 1368-4736 LANGUAGE: English

PUBLISHER: Martin Dunitz Ltd.

SECTION:

CA215000 Immunochemistry

CA201XXX Pharmacology

CA202XXX Mammalian Hormones

IDENTIFIERS: review T cell immunotherapy cancer

DESCRIPTORS:

Hematopoietic growth factors...

Flt3 ligand; in T-cell-based immunotherapy for cancer

Vaccines...

for T-cell-based immunotherapy for cancer

Immunization...

genetic; for T-cell-based immunotherapy for cancer

Tumor-associated antigen...

immunotherapy for cancer targeting T-cells to

Cytotoxic T cell...

immunotherapy for cancer using epitopes for

Adjuvants(immunological)... Dendritic cell... Peptides,biological studies

... Virus vectors...

in T-cell-based immunotherapy for cancer

Immunotherapy... Tumors(animal)...

T-cell-based immunotherapy for cancer

Interleukin 12... Interleukin 2... Interleukin 4...

T-cell-based immunotherapy for cancer using transgenic expression of

CAS REGISTRY NUMBERS:

83869-56-1 T-cell-based immunotherapy for cancer using transgenic expression of

16/7/15 (Item 4 from file: 399)

DIALOG(R)File 399:CA SEARCH(R)

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128087502 CA: 128(8)87502y JOURNAL

Induction of dendritic cells (DC) by Flt3 ligand (FL) promotes the generation of tumor-specific immune responses in vivo

AUTHOR(S): Lynch, David H.

LOCATION: Department of Immunobiology, Immunex Corporation, Seattle, WA, 98101, USA

JOURNAL: Crit. Rev. Immunol. DATE: 1998 VOLUME: 18 NUMBER: 1 & 2

PAGES: 99-107 CODEN: CCRIDE ISSN: 1040-8401 LANGUAGE: English

PUBLISHER: Begell House, Inc.

SECTION:

CA215000 Immunochemistry

IDENTIFIERS: dendritic cell Flt3 ligand antitumor review

DESCRIPTORS:

Dendritic cell... Tumors(animal)...

dendritic cells induction by Flt3 ligand promotes tumor-specific immune responses

Hematopoietic growth factors...

Flt3 ligand; dendritic cells induction by Flt3 ligand promotes tumor-specific immune responses

16/7/16 (Item 5 from file: 399)

DIALOG(R)File 399:CA SEARCH(R)

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128073905 CA: 128(7)73905v JOURNAL

Dramatic numerical increase of functionally mature dendritic cells in
FLT3 ligand-treated mice

AUTHOR(S): Maraskovsky, Eugene; Pulendran, Bali; Brasel, Ken; Teepe, Mark
; Roux, Eileen R.; Shortman, Ken; Lyman, Stewart D.; McKenna, Hilary J.

LOCATION: Dep. Immunol., Immunex Corp., Seattle, WA, 98101, USA

JOURNAL: Adv. Exp. Med. Biol. DATE: 1997 VOLUME: 417 NUMBER: Dendritic
Cells in Fundamental and Clinical Immunology, Vol. 3 PAGES: 33-40 CODEN:
AEMBAP ISSN: 0065-2598 LANGUAGE: English PUBLISHER: Plenum Publishing
Corp.

SECTION:

CA215000 Immunochemistry

IDENTIFIERS: review dendritic cell FLT3 ligand

DESCRIPTORS:

Dendritic cell...

FLT3 ligand treatment increases the no. of functionally mature
dendritic cells in mice

Proteins(specific proteins and subclasses)...

FLT3 ligand; FLT3 ligand treatment increases the no. of functionally
mature dendritic cells in mice

?

WEST**Search Results - Record(s) 1 through 7 of 7 returned.**

1. Document ID: US 20010026937 A1

L9: Entry 1 of 7

File: PGPB

Oct 4, 2001

PGPUB-DOCUMENT-NUMBER: 20010026937

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010026937 A1

TITLE: Monocyte-derived dendritic cell subsets

PUBLICATION-DATE: October 4, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Punnonen, Juha	Palo Alto	CA	US	
Chang, Chia-Chun J.	Los Gatos	CA	US	

US-CL-CURRENT: 435/366; 424/93.21, 435/325, 435/373

2. Document ID: US 6218371 B1

L9: Entry 2 of 7

File: USPT

Apr 17, 2001

US-PAT-NO: 6218371

DOCUMENT-IDENTIFIER: US 6218371 B1

TITLE: Methods and products for stimulating the immune system using immunotherapeutic oligonucleotides and cytokines

DATE-ISSUED: April 17, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Krieg; Arthur M.	Iowa City	IA		
Weiner; George	Iowa City	IA		

US-CL-CURRENT: 514/44; 424/180.1, 424/185.1, 435/455, 435/6, 435/91.1, 514/2,
536/23.1

3. Document ID: US 6077519 A

L9: Entry 3 of 7

File: USPT

Jun 20, 2000

US-PAT-NO: 6077519

DOCUMENT-IDENTIFIER: US 6077519 A

TITLE: Methods for isolation and use of T cell epitopes eluted from viable cells in vaccines for treating cancer patients

DATE-ISSUED: June 20, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Storkus; Walter J.	Glenshaw	PA		
Lotze; Michael T.	Pittsburgh	PA		

US-CL-CURRENT: 424/277.1; 424/85.1, 424/93.71, 435/325, 435/372, 435/384, 435/385,
435/386, 435/70.1, 435/70.3, 514/2, 514/21, 530/344

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [KWMC](#) | [Drawn Desc](#) | [Image](#)

4. Document ID: US 6017527 A

L9: Entry 4 of 7

File: USPT

Jan 25, 2000

US-PAT-NO: 6017527

DOCUMENT-IDENTIFIER: US 6017527 A

TITLE: Activated dendritic cells and methods for their activation

DATE-ISSUED: January 25, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Maraskovsky; Eugene	Seattle	WA		
Mc Kenna; Hilary J.	Seattle	WA		

US-CL-CURRENT: 424/93.71; 424/93.7, 435/2, 435/325, 435/375, 435/377, 435/455

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [KWMC](#) | [Drawn Desc](#) | [Image](#)

5. Document ID: US 6001803 A

L9: Entry 5 of 7

File: USPT

Dec 14, 1999

US-PAT-NO: 6001803

DOCUMENT-IDENTIFIER: US 6001803 A

TITLE: Composition of c-kit ligand, GM-CSF, and TNF-.alpha. and method of use

DATE-ISSUED: December 14, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Besmer; Peter	New York	NY		
Buck; Jochen	New York	NY		
Moore; Malcolm A. S.	New York	NY		
Nocka; Karl	Harvard	MA		

US-CL-CURRENT: 514/12; 424/85.1, 530/350, 530/351[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)[KMC](#) | [Drawn Desc](#) | [Image](#) 6. Document ID: US 5994126 A

L9: Entry 6 of 7

File: USPT

Nov 30, 1999

US-PAT-NO: 5994126

DOCUMENT-IDENTIFIER: US 5994126 A

TITLE: Method for in vitro proliferation of dendritic cell precursors and their use to produce immunogens

DATE-ISSUED: November 30, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Steinman; Ralph M.	Westport	CT		
Inaba; Kayo	Kyoto			JPX
Schuler; Gerold	Innsbruck			ATX

US-CL-CURRENT: 435/325; 435/326, 435/339, 435/372, 435/373, 514/2, 530/350, 530/351[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)[KMC](#) | [Drawn Desc](#) | [Image](#) 7. Document ID: US 5849589 A

L9: Entry 7 of 7

File: USPT

Dec 15, 1998

US-PAT-NO: 5849589

DOCUMENT-IDENTIFIER: US 5849589 A

TITLE: Culturing monocytes with IL-4, TNF-.alpha. and GM-CSF TO induce differentiation to dendric cells

DATE-ISSUED: December 15, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tedder; Thomas F.	Durham	NC		
Zhou; Liang-Ji	Houston	TX		

US-CL-CURRENT: 435/377; 424/93.71, 435/375[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)[KMC](#) | [Drawn Desc](#) | [Image](#)[Generate Collection](#)[Print](#)

Term	Documents
8.CLM..USPT,PGPB.	7
(L8.CLM.).USPT,PGPB.	7

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L7: Entry 25 of 28

File: USPT

Dec 9, 1997

DOCUMENT-IDENTIFIER: US 5696086 A

TITLE: Methods and kits using macrophage stimulating protein

Other Reference Publication (3):

Banu et al., "Modulation of Hematopoietic Progenitor Development by Recombinant Human FLT3 Ligand" Blood (abstract No. 1061) 84(10):269a (Nov. 1994).